CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/W.No.13/JKS/CSR-05/035b/CEMENT/2016-17 Date: 12.05.2016

TEST REPORT ON CEMENT

* CUSTOMER	:	**Asst. Executive Engineer,** Shetyhalli Sub Division, BBMP, Bangalore.
*AGENCY	:	**Mr. J.K. Shukesh,** #3/42, 5th Cross, Nadini Layout, Bangalore – 96.
*NAME OF THE WORK	:	Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore.
*REFERENCE	:	AEE/SSD/QC/21/2016-17 Dated: 10.05.2016
SAMPLE ID	:	Cement
SAMPLE RECEIVED ON	:	10.05.2016
PERIOD OF TESTING	:	10.05.2016 to 12.05.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	30.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	150 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	490 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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Job No.: CTCE/BBMP/W.No.13/JKS/CSR-05/035b/SAND-Gradation/2016-17 : 12.05.2016

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Shetyhalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. J.K. Shukesh,**
#3/42, 5th Cross, Nadini Layout, Bangalore – 96.

*** Name of Work** : Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore.

Reference : AEE/SSD/QC/21/2016-17 Dated: 10.05.2016

Technical Reference : IS : 2386 Part 1 - 1963 RA-2007

Sample ID : Fine Aggregates

Sample Received on : 10.05.2016

Date of Testing : 12.05.2016

Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	94.80	90-100	90-100	90-100	95-100
2.36	76.80	60-95	75-100	85-100	95-100
1.18	57.00	30-70	55-90	75-100	90-100
600 Micron	28.50	15-34	35-59	60-79	80-100
300 Micron	16.00	5-20	8-30	12-40	15-50
150 Micron	6.00	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-I specific limits.

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Job No.: CTCE/BBMP/W.No.13/JKS/CSR-05/035b/AGG/GR/2016-17 : 12.05.2016

TEST REPORT ON DETERMINATION GRADATION OF COARSE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Shetyhalli Sub Division, BBMP, Bangalore.
* Agency	: **Mr. J.K. Shukesh,** #3/42, 5th Cross, Nadini Layout, Bangalore – 96.
* Name of Work	: Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore.
Reference	: AEE/SSD/QC/21/2016-17 Dated: 10.05.2016
Technical Reference	: IS : 2386 Part 1 -1963 RA-2007
Sample ID	: Coarse Aggregates (40mm)
Sample Received on	: 10.05.2016
Date of Testing	: 12.05.2016

Total Wt. of Aggregates in gms= **7000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.43	95-100	85-100
20	33.14	30-70	0-20
10	15.29	10-35	0-5
4.75	3.14	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits.

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Job No.: CTCE/BBMP/W.No.13/JKS/STEEL/2016-17 14.05.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer**, Shetyhalli Sub Division, BBMP, Bangalore.
Agency	:	**Mr. J.K. Shukesh,** #3/42, 5th Cross, Nadini Layout, Bangalore – 96.
Name of the Work	:	Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore.
Reference	:	AEE/SSD/QC/21/2016-17 Dated: 10.05.2016
Date of Test	:	14.05.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	8	0.40	510	552	13.10	O.K	O.K

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Job No.: CTCE/BBMP/W.No.13/JKS/STEEL/2016-17 14.05.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer**, Shetyhalli Sub Division, BBMP, Bangalore.
Agency	:	**Mr. J.K. Shukesh,** #3/42, 5th Cross, Nadini Layout, Bangalore – 96.
Name of the Work	:	Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore.
Reference	:	AEE/SSD/QC/21/2016-17 Dated: 10.05.2016
Date of Test	:	14.05.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	10	0.62	514	557	13.30	O.K	O.K

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Job No.: CTCE/BBMP/W.No.13/JKS/CSR-05/035b/CUBE/2016-17 15.06.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Shetyhalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. J.K. Shukesh,**
#3/42, 5th Cross, Nadini Layout, Bangalore – 96.

*** Name of the work** : Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore.

*** Reference** : AEE/SSD/QC/21/2016-17 Dated: 10.05.2016

*** Sample ID** : RCC Drain Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : M_{20}

Compressive Strength as on : 28th day

Sample Received on : 15.06.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	18.05.2016	15.06.2016	8.115	485.3	21.57
2	18.05.2016	15.06.2016	8.236	499.6	22.20
3	18.05.2016	15.06.2016	8.354	510.2	22.68

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Job No.: CTCE/BBMP/W.No.13/JKS/CSR-05/035b/CUBE/2016-17 15.06.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer**	: **Asst. Executive Engineer,** Shetyhalli Sub Division, BBMP, Bangalore.
*** Agency**	: **Mr. J.K. Shukesh,** #3/42, 5th Cross, Nadini Layout, Bangalore – 96.
*** Name of the work**	: Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore.
*** Reference**	: AEE/SSD/QC/21/2016-17 Dated: 10.05.2016
*** Sample ID**	: RCC Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
*** Grade of Concrete**	: M_{20}
Compressive Strength as on	: 28th day
Sample Received on	: 15.06.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	18.05.2016	15.06.2016	8.190	495.5	22.02
2	18.05.2016	15.06.2016	8.290	512.2	22.76
3	18.05.2016	15.06.2016	8.280	528.6	23.49

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Job No.: CTCE/BBMP/W.No.13/JKS/CSR-05/035b/Pre Cast Slab/2016-17 25.05.2016

TEST REPORT ON CONCRETE CORE (PRE CAST SLAB)

* Name of Customer	:	**Asst. Executive Engineer,** Shetyhalli Sub Division, BBMP, Bangalore.
* Name of Agency	:	**Mr. J.K. Shukesh,** #3/42, 5th Cross, Nadini Layout, Bangalore – 96.
* Name of work	:	Construction of RCC drain in 3rd and 5th cross south side at Prashantha Nagara in Ward No.13, Shetyhalli Sub Division, BBMP, Bangalore.
Reference	:	AEE/SSD/QC/21/2016-17 Dated: 10.05.2016
Techinical Reference	:	IS:516-1959 (Reaffirmed 2008), SP-24:1983.
Sample ID	:	Pre cast slab
Sample Received on	:	20.05.2016
Date of Testing	:	25.05.2016

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	78.00	0.384	2507.30	1.56	0.955	32.50	16.55	17.88	17.07	21.34
2	50.00	79.00	0.392	2527.14	1.58	0.960	33.00	16.81	18.15	17.43	21.78
3	50.00	80.00	0.399	2540.11	1.60	0.965	33.80	17.21	18.59	17.94	22.43

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